

CLAIMS

What is claimed is:

- 5 1. A method of controlling a cryopump, the method comprising:
 coupling a heater to a cryopumping surface; and
 controlling the heater during operation of a cryopump to maintain
 a temperature of the cryopump.
- 10 2. A method according to Claim 1 wherein the heater is controlled by
 feedback from a temperature sensor.
- 15 3. A method according to Claim 2 further including shutting off the heater
 in response to receiving feedback indicating a temperature outside of a
 normal range.
- 20 4. A method according to Claim 2 wherein the cryopumping surface further
 includes first and second cryopumping surfaces, each cryopumping
 surface having a heater.
- 25 5. A method according to Claim 2 wherein the heaters are controlled
 proportionally by the feedback from the temperature sensors.
6. A method according to Claim 1 wherein the heater maintains a
 temperature of a first stage of the cryopump.
7. A method according to Claim 6 wherein the temperature is maintained
 above 65K.
- 30 8. A method according to Claim 1 wherein the heater is an electric heater.

9. A cryopump comprising:
 - a heater coupled to a cryopumping surface; and
 - an electronic controller which maintains a temperature of the cryopump by controlling the heater during operation of a cryopump.
10. A cryopump as in Claim 9 wherein the heater is controlled by feedback from one or more temperature sensors coupled to the cryopump.
11. A cryopump as in Claim 10 wherein the controller shuts off the heater when the temperature sensed by one or more of the temperature sensors is outside a normal temperature range.
12. A cryopump as in Claim 10 wherein the cryopumping surface further includes:
 - first and second cryopumping surfaces;
 - the first cryopumping surface having a heater; and
 - the second cryopumping surface having a heater.
13. A cryopump as in Claim 9 wherein the heaters are controlled proportionally by the feedback from the temperature sensors.
14. A cryopump as in Claim 9 wherein the heater maintains a temperature of a first stage of the cryopump.
15. A cryopump as in Claim 14 wherein the temperature is above 65K.
16. A cryopump as in Claim 9 wherein the heater is an electric heater.

17. A system for controlling a cryopump comprising:
 - means for heating a cryopumping surface; and
 - means for controlling the heater during operation of a cryopump to maintain a temperature of the cryopump.